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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/545,752	04/10/2000	David W. Moore	ST9-99-122	2720

21552 7590 12/20/2002

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EXAMINER

NGUYEN, TAM V

ART UNIT

PAPER NUMBER

2172

DATE MAILED: 12/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/545,752

Applicant(s)

MOORE, DAVID W.

Examiner

Tam V Nguyen

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 23-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

1. Claims 1-21 and 23-31 are pending in this office action. Claims 1-21 and 23-31 are presented for examination. This office action is in response to the amendment filed date 09/25/2002.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-21 and 23-31 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 23 been renumbered 22.

Misnumbered claim 24 been renumbered 23.

Misnumbered claim 25 been renumbered 24.

Misnumbered claim 26 been renumbered 25.

Misnumbered claim 27 been renumbered 26.

Misnumbered claim 28 been renumbered 27.

Misnumbered claim 29 been renumbered 28.

Misnumbered claim 30 been renumbered 29.

Misnumbered claim 31 been renumbered 30.

4. The examiner assumes that the original claims 23-30 are dependent on the claim 21 for further prosecution purpose.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-21 and 23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ofek et al. (US 6397308B1) in view of TDB-ACC-NO: NN8707744.

With respect to claims 1, 11, and 21, a recovery utility having, a backup copy restore utility configured to read and restore a backup copy of the database data set, (col. 6, lines 23-29); a change accumulation manager configured to read a change accumulation data set to derive detail records in parallel with the read and restore of the backup copy, (col. col. 20, lines 19-51 and col. 29, lines 10-32); and and an image copy restore utility configured to apply the detail records to the backup copy during the read and restore of the backup copy to thereby create a restored database data set, (col. 24, lines 54-col. 25, lines 65 and col. 29, lines 10-32).

Ofek does not clearly teach, "A merge end point utility configured to determine the merge end point reflective of a separation of detail and spill records in a log.

However, TDB-ACC-NO: NN8707744 shows that set which is incomplete is retained as separate spill records on the merge data set with sufficient information to allow them to be accumulated correctly with the additional changes from later runs until such time as the incomplete set becomes a null set. Incomplete or spill records will be summarized and retained as spill records if the overlap until such time as the can be designated complete and merge into the accumulation. All changes from volume A<sub>1</sub> are complete and will be output as detail records. The complete because there is no volume not included which could possibly contain changes needing to be merged with volume A<sub>1</sub>, (pages 2, lines 5-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teaching of Ofek with the teaching of TDB-ACC-NO: NN8707744 because the organization depends so heavily on its database, the database management system must provide mechanisms for restoring a database quickly and accurately after loss or damage.

As claim 2, the apparatus of claim 1 wherein the backup copy restore utility is further configured to read and restore a plurality of backup copies in parallel, (col. 29, lines 10-32)

As claim 3, the apparatus of claim 1 wherein the change accumulation manager is further configured to read in parallel a plurality of change accumulation data sets to derive detail records, (col. 29, lines 10-32).

As to claims 4, 17, and 28, Ofek does not clearly teach, " the recovery utility further comprises a merge end point utility configured to determine the merge end point reflective of a separation of detail and spill records in a log.

However, TDB-ACC-NO: NN8707744 shows that set which is incomplete is retained as separate spill records on the merge data set with sufficient information to allow them to be accumulated correctly with the additional changes from later runs until such time as the incomplete set becomes a null set. Incomplete or spill records will be summarized and retained as spill records if the overlap until such time as the can be designated complete and merge into the accumulation. All changes from volume A<sub>1</sub>. are complete and will be output as detail records. The complete because there is no volume not included which could possibly contain changes needing to be merged with volume A<sub>1</sub>, (pages 2, lines 5-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teaching of Ofek with the teaching of TDB-ACC-NO: NN8707744 because the organization depends so heavily on its database, the database management system must provide mechanisms for restoring a database quickly and accurately after loss or damage.

As claim 5, the apparatus of claim 1 wherein the recovery utility further comprises a log manager configured to read a log to derive updates subsequent to a merge end point, (col. 27, lines 12-col. 28, lines 68) and a database update manager configured to apply the updates to the restored database data set, (col. 27, lines 12-col. 28, lines 68).

As claim 6, the apparatus of claim 5 wherein the log manager is further configured to read a plurality of logs in parallel to derive updates subsequent to the merge end point, (col. 27, lines 12-col. 28, lines 68).

As claim 7, the apparatus of claim 5 wherein the database update manager is further configured to apply the updates after the backup copy is restored, (col. 27, lines 12-col. 28, lines 68).

As claim 8, the apparatus of claim 1 further comprising a virtual memory and wherein the change accumulation manager is further configured to store at least a portion of the detail records in the virtual memory, (col. 39, lines 26-36).

As claim 9, the apparatus of claim 1 wherein the backup copy restore utility is configured to send a query to the change accumulation manager for a detail record associated with the database data set during the read and restore of the backup copy, (col. 29, lines 10-68).

As claim 10, the apparatus of claim 9 wherein the change accumulation manager is configured to save the query if the detail record has not yet been read by the change accumulation manager and further configured to send the detail record to the image copy restore process if the detail record has been read by the change accumulation manager, (col. 29, lines 10-68).

As claim 12, the method of claim 11 further comprising reading and restoring a plurality of backup copies in parallel, wherein the backup copies are associated with corresponding failed database data sets, (col. 29, lines 10-32).

As claim 13, the method of claim 11 further comprising reading a plurality of change accumulation data sets in parallel to derive detail records, (col. 29, lines 10-32).

As claim 14, the method of claim 11 further comprising reading a log to derive updates subsequent to a merge end point and applying the updates to the restored database data set, (col. 27, lines 12-col. 28, lines 68).

As claim 15, the method of claim 11 wherein reading the log and applying the updates are executed after restoring the backup copy, (col. 27, lines 12-col. 28, lines 68).



As claim 16, the method of claim 11 further comprising reading a plurality of logs in parallel to derive updates subsequent to the merge end point and applying the updates to the restored database data set, (col. 27, lines 12-col. 28, lines 68).

As claim 18, the method of claim 11 further comprising storing at least a portion of the detail records in a virtual memory, (col. 39, lines 26-36).

As claim 19, the method of claim 11 further comprising generating a query to prompt for a detail record associated with the database data set, (col. 29, lines 10-68).

As claim 20, the method of claim 19 further comprising saving the query if the detail record has not yet been read and responding to the query by applying the detail record to the backup copy if the detail record has been read, (col. 29, lines 10-68).

As claim 23, the computer readable medium of claim 21 wherein the method further comprises reading and restoring a plurality of backup copies in parallel, wherein the backup copies are associated with corresponding failed database data sets, (col. 29, lines 10-32).

Re claim 24, the computer readable medium of claim 21 wherein the method further comprises reading a plurality of change accumulation data sets in parallel to derive detail records, (col. 29, lines 10-32).

As claim 25, the computer readable medium of claim 21 wherein the method further comprises reading a log to derive updates subsequent to a merge end point and applying the updates to the restored database data set, (col. 27, lines 12-col. 28, lines 68).

As claim 26, the computer readable medium of claim 21 wherein reading the log and applying the updates are executed after restoring the backup copy, (col. 27, lines 12-col. 28, lines 68).

As claim 27, the computer readable medium of claim 21 wherein the method further comprises reading a plurality of logs in parallel to derive updates subsequent to the merge end point and applying the updates to the restored database data set, (col. 27, lines 12-36).

As claim 29, the computer readable medium of claim 21 wherein the method further comprises storing at least a portion of the detail records in a virtual memory, (col. 39, lines 26-36).

As claim 30, the computer readable medium of claim 21 wherein the method further comprises generating a query to prompt for a detail record associated with the database data set, (col. 29, lines 10-68).

As claim 31, the computer readable medium of claim 30 wherein the method further comprises saving the query if the detail record has not yet been read and responding to the query by applying the detail record to the backup copy if the detail record has been read, (col. 29, lines 10-68).

### **Contact Information**

**7. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam V Nguyen whose telephone number is (703) 305-3735. The examiner can normally be reached on 7:30AM-5:00PM.**


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Yen Vu can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for formal communications and (703) 746-7240 for informal communications.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, Virginia 22202. Fourth Floor (Receptionist).

**8. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.**

TV:tv

12/12/02

  
**JEAN M. CORBIER**  
**PRIMA**  
**IER**